

# Work Order ID 67179

Wednesday, March 09, 2011 12:59:25 PM

Page 8

Item ID: D350-636-016

Accept

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011 Start Qty: 1.00

Setup Start

Stop

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Item ID: D350-636-016

Accept

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011 Start Qty: 1.00

Cust Item ID:

Setup Start

Stop

Required Date: 3/16/2011 Req'd Qty: 1.00

# Work Order ID 67179

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Page 1

Item ID: D350-636-016

Accept

Revision ID:

Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011 Start Qty: 1.00

Cust Item ID:

Required Date: 3/16/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start

Stop

Approvals:

Process Plan:

Date: 11-03-9 Tooling:

Date:

QC:

Date: SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D4168

A

IIN-D350-636

H

0.00

100



DC

Document Control

DOCUMENT CONTROL

Memo

Photocopy blue file and type labels per PPP D350-636-016 CHG 001

0.00

N/A

WORK ORDER CHANGES

W/O:								
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

WORK ORDER NON-CONFORMANCE (NCR)

NCR:								
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries  
H:\FORMS\Quality Assurance\approved QA\NCRWO RevE


NOTE: Date & initial all entries  
H:\FORMS\Quality Assurance\approved QA\NCRWO RevE


NOTE: Date & initial all entries  
H:\FORMS\Quality Assurance\approved QA\NCRWO RevE

# Picklist Print

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Work Order ID: 67179

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

D3488-042  
Blade Fitting Assembly, RH

Manufactured No

230 Each 10.0000

1

1



11/04/06

## Location

## Loc Qty

## Loc Code

FP008

9

59643

1

62003

8

FP18

1

61690

1

X1

D3492-1  
Plug

Manufactured No

230 Each 0.0000

8

8

B66937



(x8)

11/04/06

D3492-3  
Plug

Manufactured No

230 Each 0.0000

8

8

B66931



(x8)

11/04/06

D3873-1  
Bushing

Manufactured No

230 Each 180.0000

7

7



11/04/06

## Location

## Loc Qty

## Loc Code

ST088

180

57615

3

62197

8

64567

69

64760

100

X7

D4154-041  
Wearplate Assembly

Manufactured No

230 Each 2.0000

1

1



11/04/06

## Location

## Loc Qty

## Loc Code

FG

2

65092

2

X1

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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Work Order ID: 67179

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

D4170-1 Manufactured No

230 Each

38.0000

4

4



Bushing

Location

Loc Qty

Loc Code

LG

38

62251

4

65912

23

66158

11

*BIC 11/04/05*  
*B* ~~*62251*~~ *x4*

*4*

D4171-1 Manufactured No

230 Each

18.0000

1

1



Bushing

Location

Loc Qty

Loc Code

ST135

18

*B62710*

65646

18

*x1*

MS21043-3 Purchased No

230 Each

1,156.000

5

5



Nut

Location

Loc Qty

Loc Code

FG

76

103691

76

ST301

1080

112314

1080

*x5*

NAS1149C0363R Purchased No

230 Each

5,076.000

9

9



Washer

Location

Loc Qty

Loc Code

ST297

5076

113524

33

113889

139

114742

4904

*x9*

*M 11/04/06*

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W/O:		WORK ORDER CHANGES						
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Work Order ID: 67179

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1515H3L

Purchased No

230 Each

300.0000 4 4



WASHER



*M 4/04/06*

Location

Loc Qty

Loc Code

FG	40
102472	40
ST277	260
111819	34
<u>113362</u>	226

*x4*

NAS1611-010

Purchased No

230 Each

309.0000 8 8



O-RING



*M 4/04/06 PTO =)*

Location

Loc Qty

Loc Code

FP	309
110715	100
110915	159
115589	50

NAS1611-013

Purchased No

230 Each

243.0000 8 8



O-RING



*M 4/04/06*

Location

Loc Qty

Loc Code

FP	243
115460	100
115589	28
115812	20
116582	95

*M 117291*

*x5*

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11/04/06	230	Replace & Assemble with D2594-3/1365518 O Rings	JH	11/04/06	X8		

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Work Order ID: 67179

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

AN960JD816

Purchased

No

250

Each

85.0000

2

2



1/2" washer, Alum



*u 410406*

Location

Loc Qty

Loc Code

ST348

85

106043

85

*x2*

D2744

Manufactured

No

110

Each

55.0000

1

1



Cap



*BB 4/03/30*

Location

Loc Qty

Loc Code

LG

29

65086

29

ST

26

62715

26

~~D2600-3-BENT~~

Manufactured

No

110

Each

6.0000

1

1



Extrusion Bent



Location

Loc Qty

Loc Code

LG

6

61634

2

62764

1

64434

3

*66875*

*1*

*BB 11/03/16*

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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Wednesday, March 09, 2011 12:59:33 PM

Work Order ID: 67179

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

D2743 Manufactured No 160 Each 122.0000 8 8  
Crossbolt Spacer

Location	Loc Qty	Loc Code
LG	122	
50281	10	
57953	2	
59111	10	
61844	16	
64003	84	

BE 11/04/05

D2739 Manufactured No 160 Each 4.0000 1 1  
350 I Beam

Location	Loc Qty	Loc Code
LG	4	
64448	4	

BE 11/04/04  
B 66981 (x)

ALS4-1032-225 Purchased No 230 Each 3,809.000 4 4  
Insert

Location	Loc Qty	Loc Code
PK011	3809	
110768	3809	

u104106

x4

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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Work Order ID: 67179

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

AN8C35A Purchased No 230 Each 59.0000 1 1  
BOLT

Location	Loc Qty	Loc Code
ST345	25	
116874	25	
ST346	34	
114442	5	
115188	5	
115960	24	

AN6C44A Purchased No 230 Each 89.0000 4 4  
BOLT

Location	Loc Qty	Loc Code
FG	2	
103964	2	
ST344	87	
111649	2	
114653	1	
115936	34	
116874	50	

MS21083C8 Purchased No 230 Each 57.0000 1 1  
NUT

Location	Loc Qty	Loc Code
ST303	57	
113845	5	
114934	3	
115594	4	
115884	25	
117010	20	

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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Wednesday, March 09, 2011 12:59:34 PM

Work Order ID: 67179

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

D3631-1

Manufactured No

230 Each

228.0000 8 8



Washer



Handwritten: 1104/06

Location

Loc Qty

Loc Code

ST072

228

63647

128

66959

100

Handwritten: x8

AN960C10L

NAS1149C0332

Purchased

No

230 Each

61.0000 4 4



washer



Handwritten: 1104/06

Location

Loc Qty

Loc Code

ST297

61

107534

59

108246

2

Handwritten: 11117291

Handwritten: x4

D2745

Manufactured

No

230 Each

105.0000 8 8



Bushing



Handwritten: 1104/06

Location

Loc Qty

Loc Code

ST021

105

52311

5

59112

4

63315

96

Handwritten: x8

AN960C816L

Purchased

No

230 Each

0.0000 1 1



WASHER NAS1149C08332R / M114915



Handwritten: (x1) 1104/06

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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Work Order ID: 67179

Parent Item: D350-636-016



Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011



Required Date: 3/16/2011

Start Qty: 1.00



Required Qty: 1.00

AN3C6A Purchased No 230 Each 327.0000 4 4  
  
 BOLT  11/04/06



Location	Loc Qty	Loc Code
ST351	327	
111982	102	
116419	75	
116549	50	
116704	100	

MS21043-6 Purchased No 230 Each 538.0000 4 4  
  
 NUT  11/04/06

Location	Loc Qty	Loc Code
ST301	538	
112314	538	

D3493-1 Manufactured No 250 Each 28.0000 2 2 ✓  
  
 Washer  11/04/06

Location	Loc Qty	Loc Code
ST062	28	
62677	28	

MS21083C8 Purchased No 250 Each 57.0000 2 2  
  
 NUT  11/04/06

Location	Loc Qty	Loc Code
ST303	57	
113845	5	
114934	3	
115594	4	
115884	25	
117010	20	

11/70/0

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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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# Picklist Print

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Wednesday, March 09, 2011 12:59:34 PM

Work Order ID: 67179

Parent Item: D350-636-016

Parent Item Name: Skidtube STD w/ Training Wearplates, RH

Start Date: 3/9/2011

Required Date: 3/16/2011

Start Qty: 1.00

Required Qty: 1.00

AN8C21A

Purchased

No

250

Each

67.0000

2

2



BOLT

Location

Loc Qty

Loc Code

ST345

67

113558

1

114653

2

115723

4

116381

60

116381

D2741

Manufactured

No

250

Each

77.0000

1

1



Blade, 350 Skidtube

Location

Loc Qty

Loc Code

ST466

77

60210

4

61341

33

63589

40

61341

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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X			D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X		D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X	D4168-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
8	8	8	8	D3631-1	WASHER
7	7	7	7	D3873-1	BUSHING
1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1				D4168-1	SKIDTUBE WELDMENT, LH
	1			D4168-2	SKIDTUBE WELDMENT, RH
		1		D4168-3	SKIDTUBE WELDMENT, LH
			1	D4168-4	SKIDTUBE WELDMENT, RH
4	4	4	4	D4170-1	SPACER
1	1	1	1	D4171-1	BUSHING
4	4	4	4	ALS4-1032-225	INSERT
4	4	4	4	AN3C6A	BOLT
1	1	1	1	AN3C34A	BOLT
4	4	4	4	AN3C36A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
9	9	9	9	AN960C10	WASHER (OR NAS1149C0363R)
4	4	4	4	AN960C10L	WASHER (OR NAS1149C0332R)
1	1	1	1	AN960C816L	WASHER (OR NAS1149C0832R)
5	5	5	5	MS21043-3	NUT
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

# **GENERAL NOTES:**

- MATERIAL: MAKE D4168-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:  
CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.  
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D4168-041/-042/-043/-044 = 32.3 LBS
- WELD PER DART QSI 004
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:  
MINIMUM YIELD TENSILE STRENGTH = 35 KSI  
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF  
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

**RELEASED**  
2010-09-15

A NEW ISSUE		SC	10.08.09
REV.	DESCRIPTION	BY	DATE
DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 1 OF 11
APPROVED		TITLE	SCALE
DE APPR.		350 SKIDTUBE ASSEMBLY	NTS
DATE	10.08.09	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE REPRODUCED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

W/O:		WORK ORDER CHANGES						
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Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

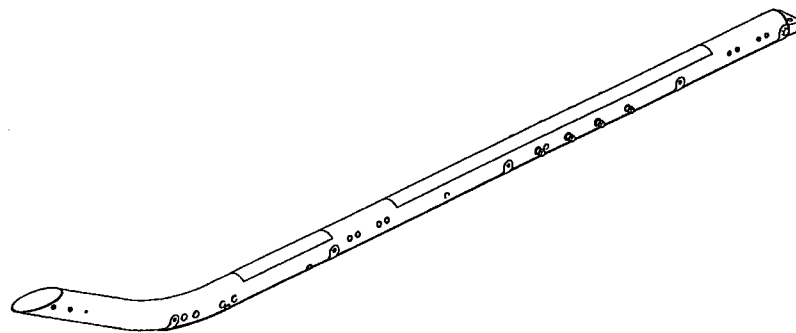
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

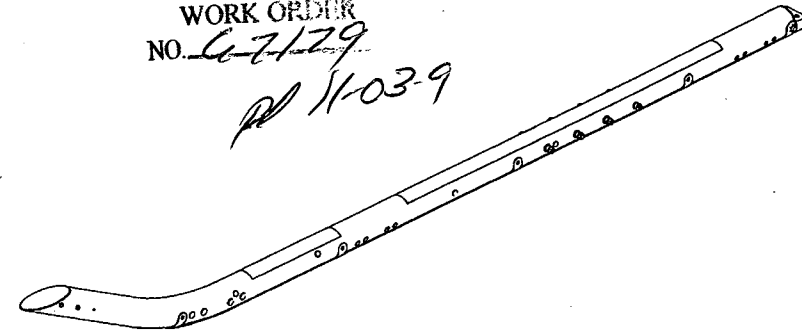
**NOTE:** Date & initial all entries

SHOP COPY  
 RETURN TO  
 ENGINEERING  
 UNCONTROLLED COPY  
 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 WORK ORDER  
 NO. C-7129

*11-03-9*



**D4168-041 350 SKIDTUBE ASSEMBLY, LH**



**D4168-042 350 SKIDTUBE ASSEMBLY, RH**

**RELEASED**  
 2010-09-15  
*JM*

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b> PORT HADLOCK, WA	
DRAWN	SC		
CHECKED	<i>[Signature]</i>	DRAWING NO. <b>D4168</b>	REV. A
MFG. APPR.	<i>[Signature]</i>	SHEET 2 OF 11	
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	<b>350 SKIDTUBE ASSEMBLY</b>	NTS
DATE	<b>10.08.09</b>	<small>COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.          THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS          NOT TO BE USED FOR ANY PURPOSE OR ORIGIN OR DISSEMINATED TO ANY OTHER PERSON WITHOUT          WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

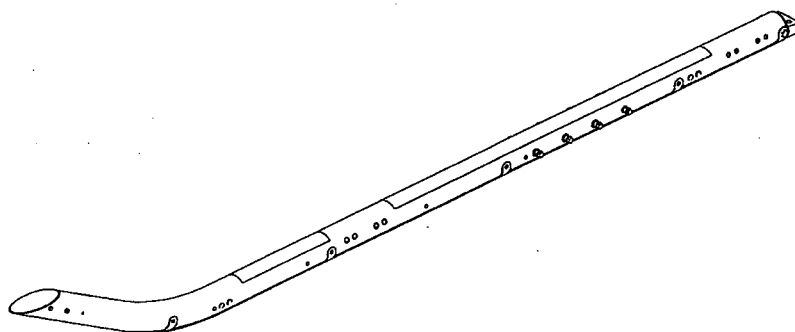
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

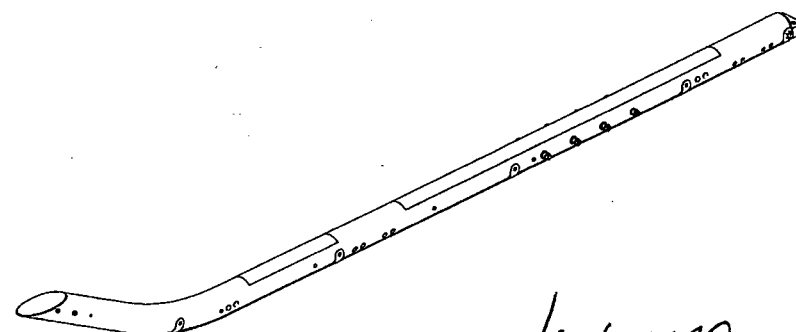
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





**D4168-043 350 SKIDTUBE ASSEMBLY, LH**



**D4168-044 350 SKIDTUBE ASSEMBLY, RH**

**RELEASED**  
2010-09-15

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO. <b>D4168</b>	REV. A
MFG. APPR.		SHEET 3 OF 11	
APPROVED		TITLE	SCALE
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W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

8

7

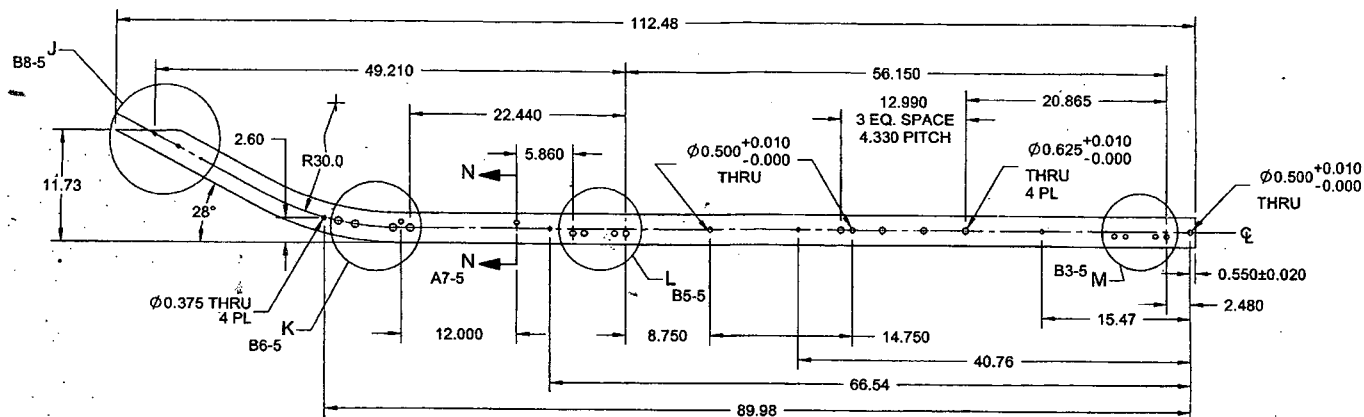
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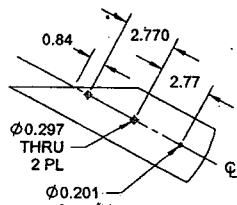
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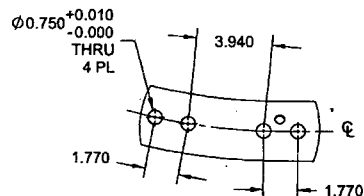
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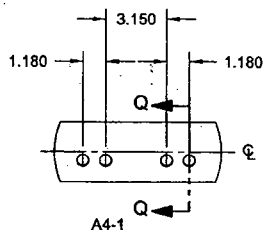
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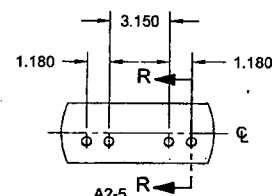
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SCALE 2X



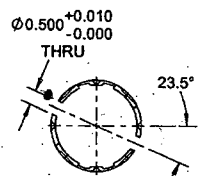
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SCALE 2X



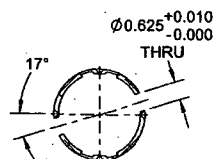
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SCALE 2X



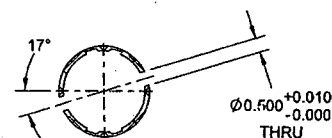
**DETAIL M**  
SCALE 2X







**SECTION N-N**  
SCALE 3X, 2 PL



**SECTION Q-Q**  
SCALE 3X, 4 PL



**SECTION R-R**  
SCALE 3X, 4 PL

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, VA	
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MFG. APPR.		D4168	SHEET 5 OF 11
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2010-09-15

u667179

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

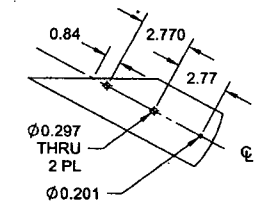
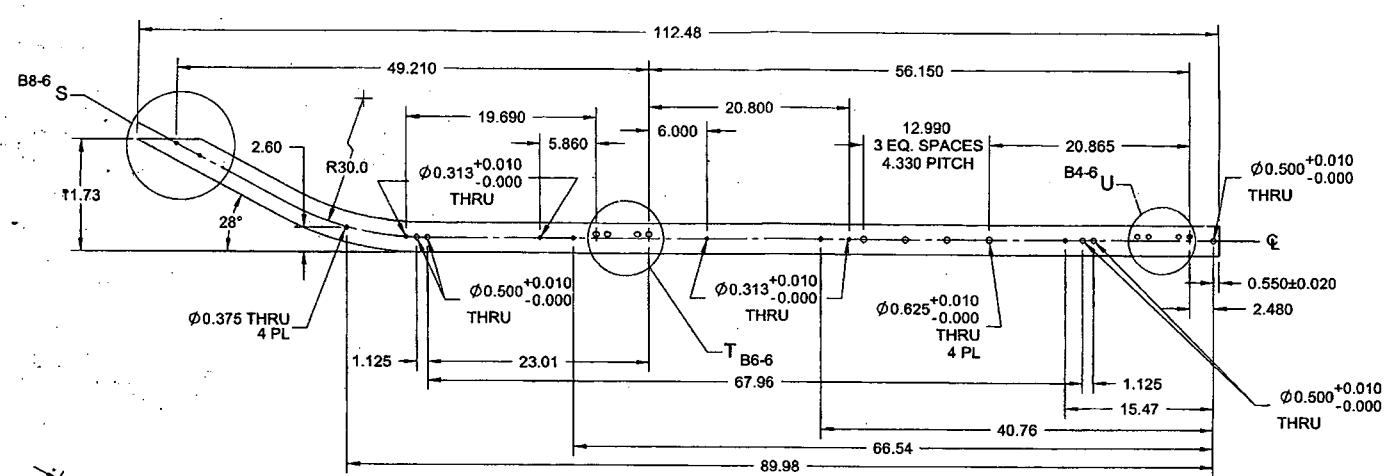
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

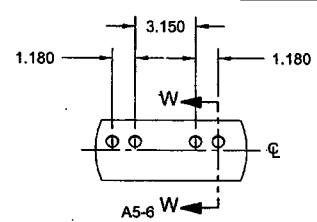
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

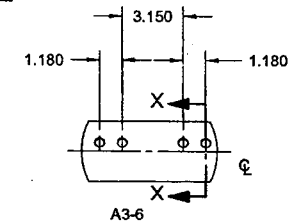
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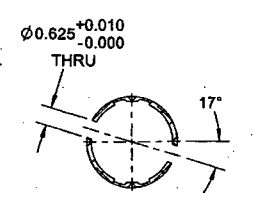
**DETAIL S**  
SCALE 2X



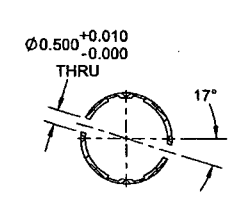
**DETAIL T**  
SCALE 2X



**DETAIL U**  
SCALE 2X



**SECTION W-W**  
SCALE 3X, 4 PL



**SECTION X-X**  
SCALE 3X, 4 PL

*w/b 47129*

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2010-09-15

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MFG. APPR.		<b>D4168</b>	SHEET 6 OF 11
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8 7 6 5 4 3 2 1

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

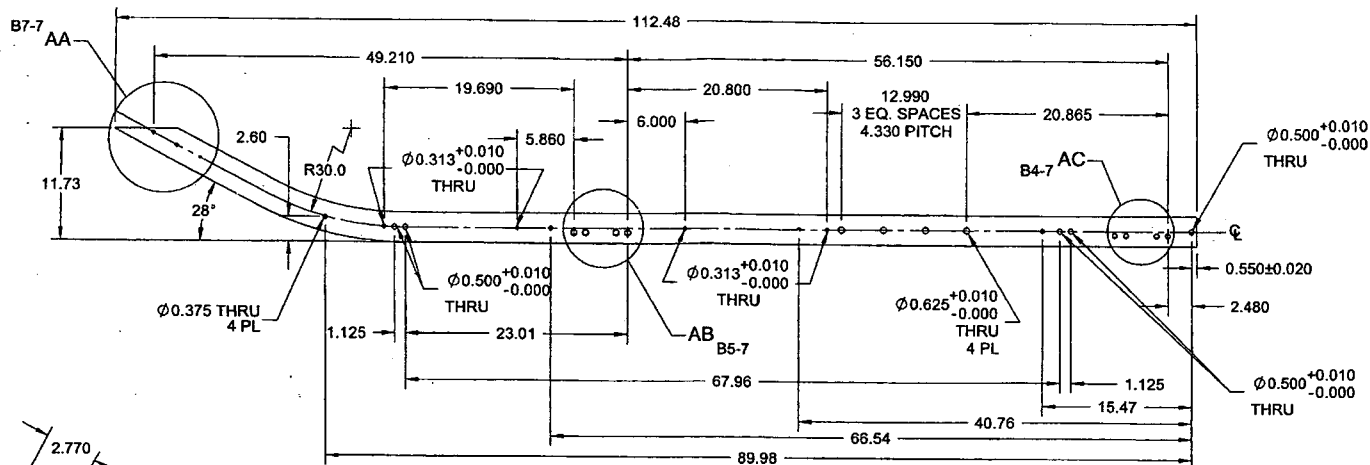
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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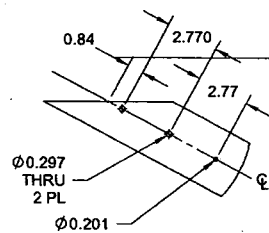
**NOTE:** Date & initial all entries



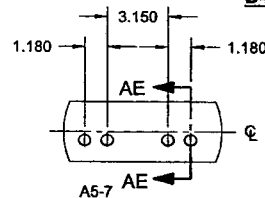
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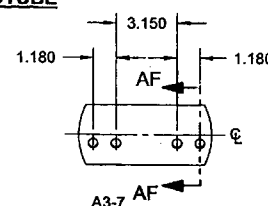
**D4168-4 RH SKIDTUBE**



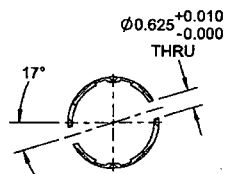
**DETAIL AA**  
SCALE 2X



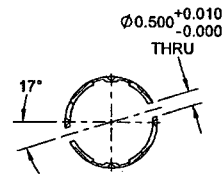
**DETAIL AB**  
SCALE 2X



**DETAIL AC**  
SCALE 2X



**SECTION AE-AE**  
SCALE 3X, 4 PL



**SECTION AF-AF**  
SCALE 3X, 4 PL

*w/6 47179*

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2010-09-15

DESIGN	SC	<b>DART AEROSPACE USA, INC.</b>	
DRAWN	SC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.		D4168	SHEET 7 OF 11
APPROVED		TITLE	SCALE
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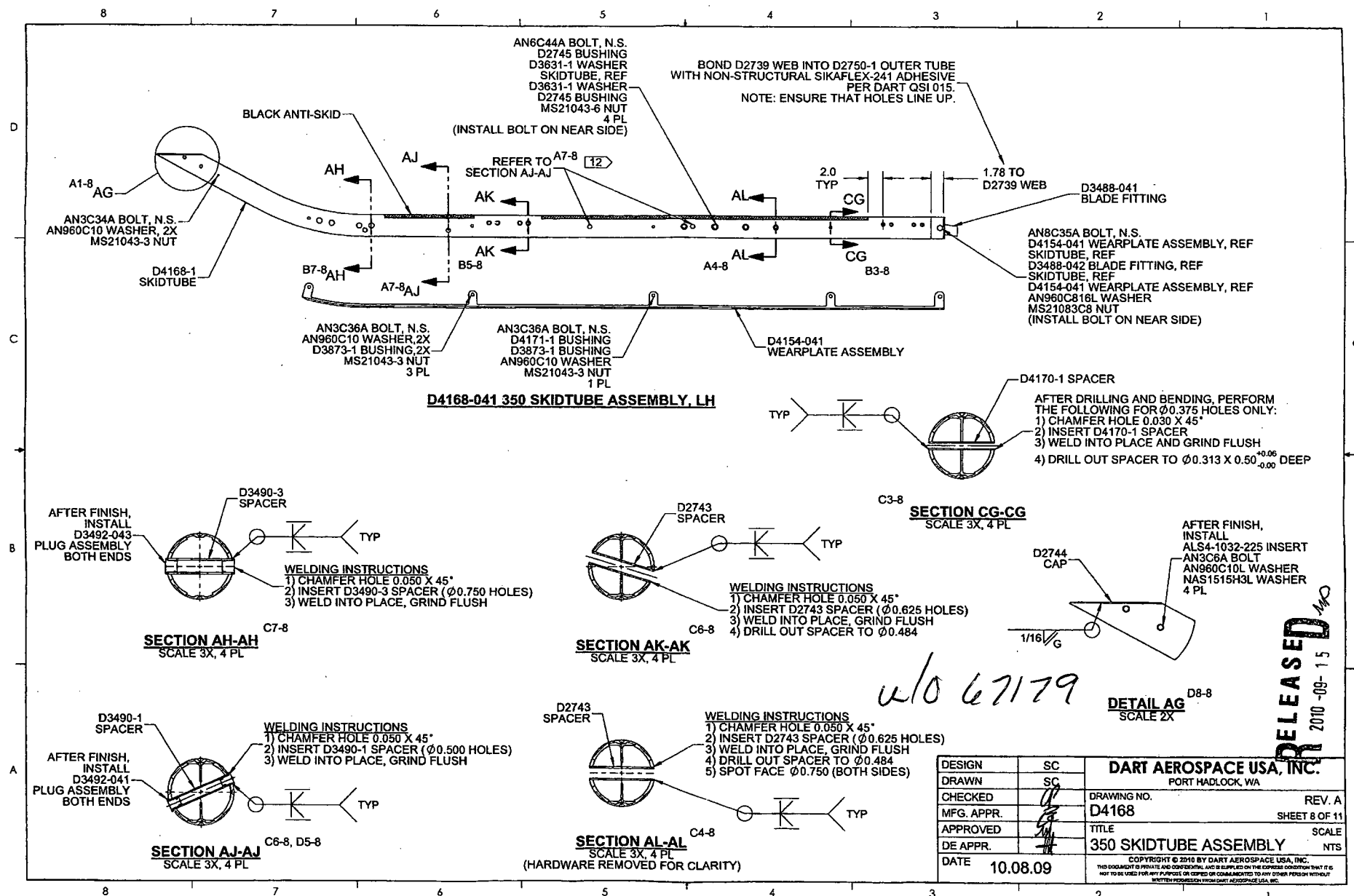
W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



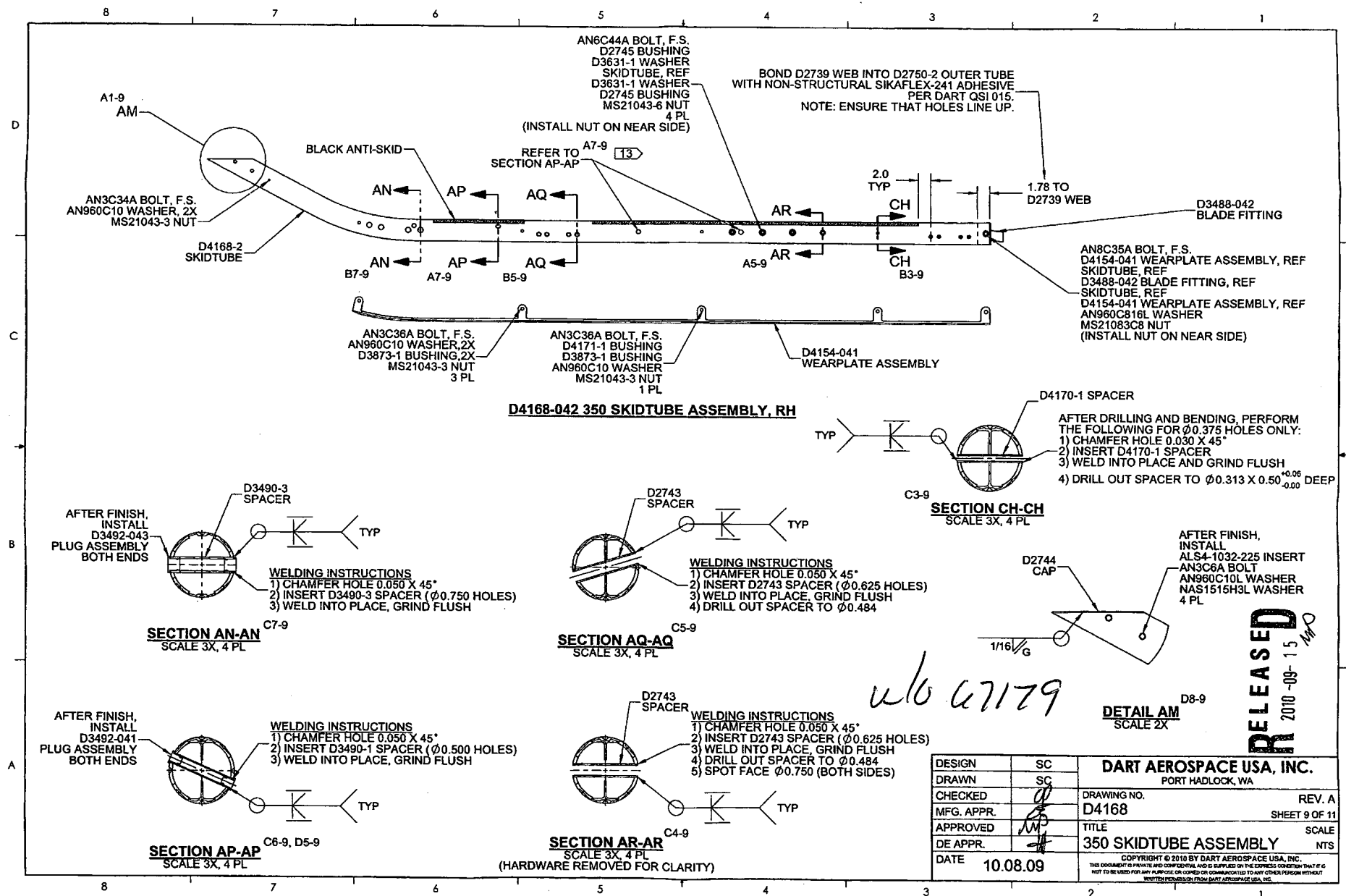
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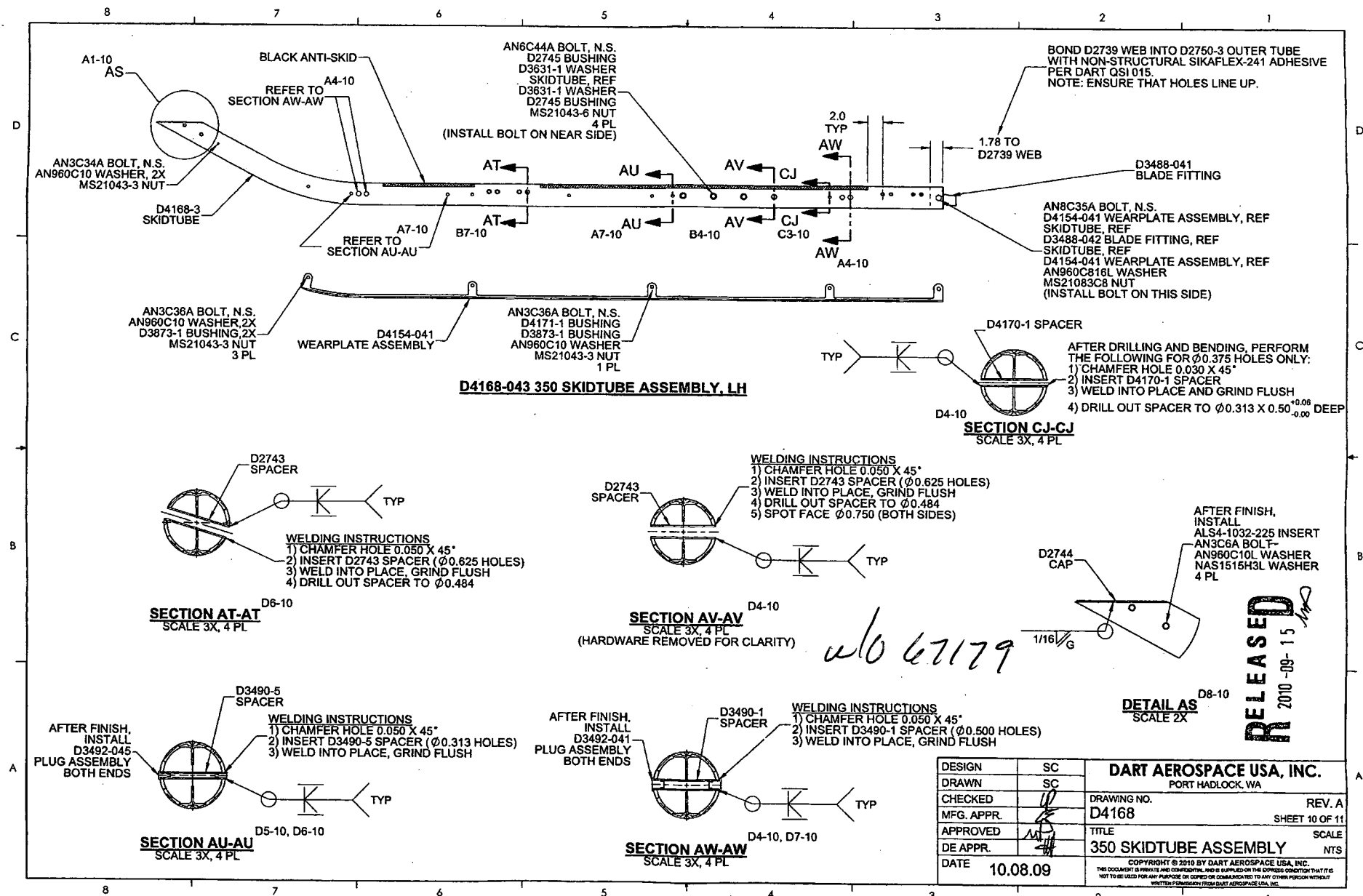
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2010-09-15

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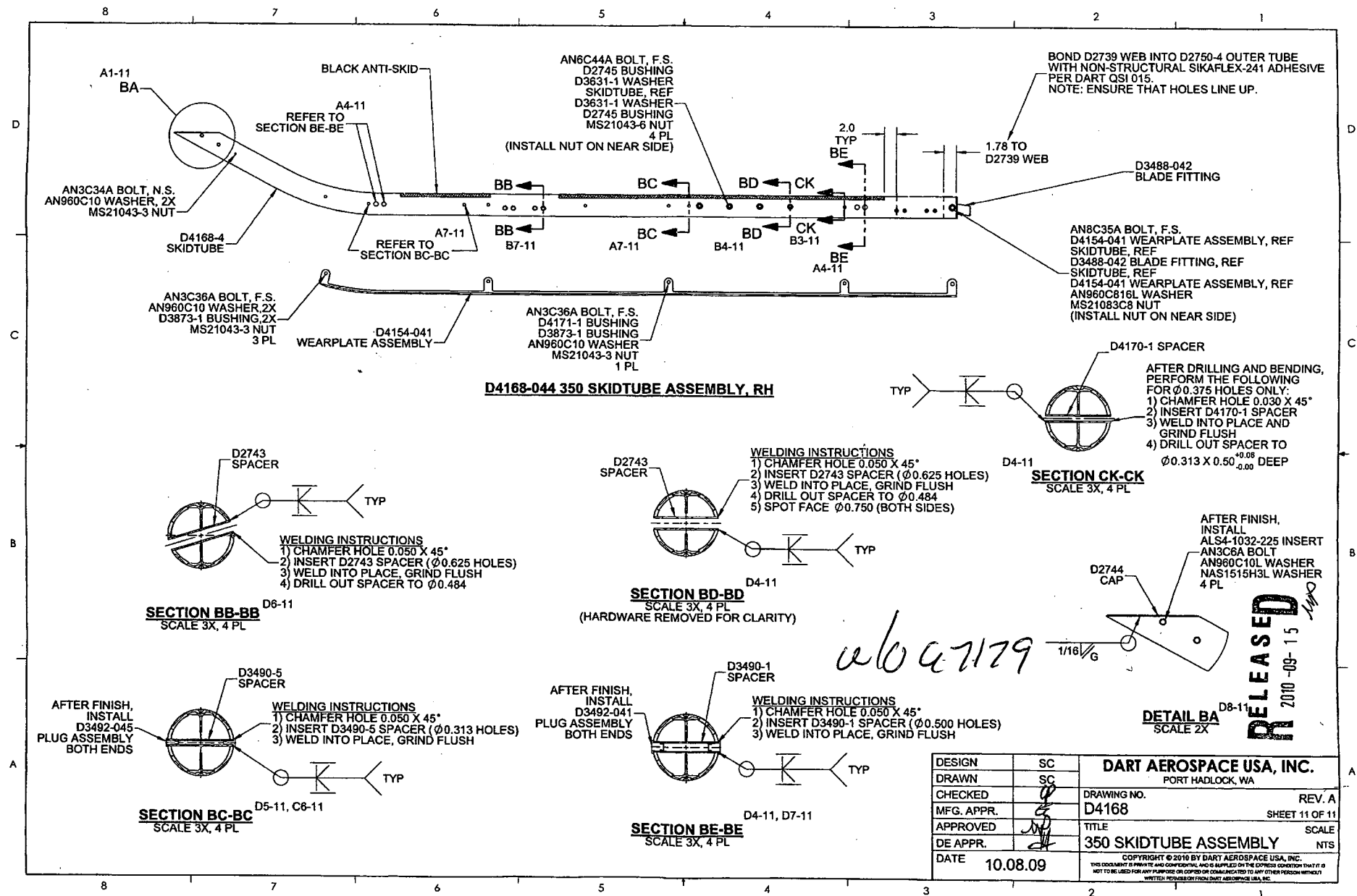
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

NO. 248

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliott  
Job number: 67178  
Part number: D350 636 015  
Description: 350  
Welding Process: Tig ☒ Mig ☐  
Base material: Aluminum  
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual:  
Penetration:

pass ☒ fail ☐  
pass ☒ fail ☐

UNACCEPTABLE

Cracks:  
Undercut:  
Pin holes:  
Overlap (cold lap)  
Porosity (surface):  
Coloration:

pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐  
pass ☒ fail ☐

Qualifier Pat. Lewis Date of Test Coupon 11.04.05  
Welder Barclay Elliott Date of Test Coupon 11.04.05

The above named individual is qualified in accordance with AWS D17.1.2001 to weld